16. The computer-readable storage medium of claim 10, wherein the method further comprises removing a highest priority node from the skip list through a constant time operation, wherein the head node of the skip list points to the highest priority node for ease of deletion, and wherein keys for nodes are chosen to achieve this ordering.

17. The computer-readable storage medium of claim 10, wherein the method further comprises periodically performing a garbage-collection operation to reclaim deleted nodes that have become unreachable.

18. The computer-readable storage medium of claim 10, wherein the target node includes:

a key that contains a priority value for the node in the skip list;

a value field that contains or points to data associated with the node;

a next pointer that contains the address of an immediately following node in the skip list; and

zero or more higher-level next pointers, wherein a given higher-level next pointer contains the address of the immediately following node in the skip list that reaches or exceeds the height of the given next pointer.

19. An apparatus for deleting a node from a skip list, wherein the skip list is lock-free, which means that the skip list can be simultaneously accessed by multiple processes without requiring the processes to perform locking operations, the apparatus comprising:

a receiving mechanism configured to receive a reference to a target node to be deleted from the skip list;